(27)

Re: Updated paper
Stephen Kraemer to: George Moridis 05/31/2012 03:08 PM

_Chip is good with paper. Thanks again for your quick responses to our tech review.

—

Stephen R. Kraemer, Ph.D, Research Hydrologist
US EPA National Exposure Research Laboratory, on detail to Office of Science and Policy
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courier: Ronald Reagan Building
1200 Pennsylvania Ave, N.W., Mail Code 8104R 1300 Pennsylvania Ave, N.W., Room #51129
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kraemer.stephen(at)epa.gov

-----George Moridis <gjmoridis@lbl.gov> wrote: -----

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To: Stephen Kraemer/ATH/USEPA/US@EPA
From: George Moridis <gjmoridis@lbl.gov>
Date: 05/31/2012 12:23PM
Subject: Re: Updated paper
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Steve:

1. The geomechanical values we are using is within the parameter space of the geomechanical properties of shale gas reservoirs. Young's modulus and Poisson ratio for the shale gas are 1.282GPa and 0.22, respectively. We refer to the following reference.
"Eseme, E., Urai, J.L., Krooss, B. M., and Littke, R., 2007 Review of mechanical properties of oil shales: Implications for exploitation and basin modeling. Oil Shale 24(2):159-174"

2. Poisson ratio of 0.0 is only for the primary fracture, where Young's modulus is 185MPa, much lower than the shale gas. The fracture is another geomechanical medium, which is completely different from the original rock such as the shale gas rock. We just selected a number to represent a highly deformable fracture.

3. In this paper of SPE155640, we use a generalized reservoir model, rather than employing a certain specific reservoir. We selected the numbers from the geomechanical parameter space of shale gas reservoirs.

The additional descriptions are in pp.7, colored in red.

Thank you
Best regards,
Jihoon Kim

George Moridis

GJMoridis@lbl.gov

On May 30, 2012, at 9:04 AM, Stephen Kraemer wrote:

> Can you address questions from Chip?
>

> Stephen R. Kraemer, Ph.D, Research Hydrologist
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>
> -----Forwarded by Stephen Kraemer/ATH/USEPA/US on 05/30/2012 12:03PM -----
>
> ========================
> To: Stephen Kraemer/ATH/USEPA/US@EPA
> From: Charles Hillenbrand/R2/USEPA/US@EPA
> Date: 05/30/2012 11:39AM
> Subject: Re: Fw: Updated paper
> ========================
> Steve,
>
> George addressed most of my questions during our phone conference.. I guess I still would like a few references or explanations why the elastic moduli used in the models were selected (paragraph on top of page 7). George stated during our conference that he was looking at different ranges and model results. For the selected Young's moduli, Poisson's ratio, Biot coefficients etc. it would help if he explained why he picked the particular numbers (via references?) to demonstrate that they make geologic sense or to help demonstrate geologic boundary conditions. What is the purpose of using 0.0 for Poisson's ratio - does it make geologic sense?
>
> The rest of the paper is fine.
>
> Thanks
>
> Chip
>
>
>
> From: Stephen Kraemer/ATH/USEPA/US
> To: Charles Hillenbrand/R2/USEPA/US@EPA
> Date: 05/29/2012 09:40 AM
> Subject: Fw: Updated paper
>
>
> Chip,
>
> Here is the updated Kim Moridis paper. Is it ready to go? Have your questions been addressed?

> Appreciate your feedback. I plan to resubmit in STICS.
>
> Thanks,
> Steve
>
>
>

> Stephen R. Kraemer, Ph.D, Research Hydrologist
> US EPA National Exposure Research Laboratory, on detail to Office of Science and Policy
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> ----- Forwarded by Stephen Kraemer/ATH/USEPA/US on 05/29/2012 09:38 AM -----
>
> From: George Moridis <gjmoridis@lbl.gov>
> To: Stephen Kraemer/ATH/USEPA/US@EPA
> Date: 05/28/2012 02:09 AM
> Subject: Updated paper
>
>
>
> Steve:
>
> Here it is. The major changes are colored in red, and the typos pointed out in the
> comments have been fixed.
>
> George Moridis
> GJMoridis@lbl.gov
>
>
> [attachment "SPE_155640_May2012.doc" deleted by Charles Hillenbrand/R2/USEPA/US]

[attachment(s) SPE_155640_May27_2010.doc removed by Stephen Kraemer/ATH/USEPA/US]